AMENDMENT(S) TO THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims on the application. All claims are set forth below with one of the following annotations.

- (Original): Claim filed with the application.

- (Currently amended): Claim being amended in the current amendment paper.

- (Canceled): Claim cancelled or deleted from the application. No claim text is shown.

- (Withdrawn): Claim still in the application, but in a non-elected status.

- (New): Claim being added in the current amendment paper.

- (Previously presented): Claim added or amended in an earlier amendment paper.

- (Not entered): Claim presented in a previous amendment, but not entered or whose entry status unknown. No claim text is shown.

1.–3.   (Cancelled).

4.   (Currently amended) ~~The method of claim 3~~ A method for detecting start of a frame, said method comprising:

processing a received signal with a known preamble to obtain cross-correlation information for said received signal and said known preamble; wherein said processing comprises:

cross-correlating said received signal with said known preamble to develop a cross-correlation signal; and

filtering said cross-correlation signal, wherein filtering said cross-correlation signal comprises:

cross-correlating said cross-correlation signal with M-1 "0"s and 1 "1" N times wherein M is a number of samples in a symbol within said preamble and N is greater than or equal to 1;

searching for an indication of strong cross-correlation between said received signal and said preamble using said cross-correlation information; and

registering start of said frame upon detection of said indication.

8. (Currently amended) The method of ~~claim 2~~ claim 1, wherein processing said received signal further comprises:

non-linearly processing the result of said cross-correlating said cross-correlation signal ~~information~~ prior to said searching.

9. (Currently amended) The method of claim 8 wherein said non-linearly processing ~~said cross-correlation information~~ comprises:

squaring the result of said cross-correlating said cross-correlation signal.

7.–10.   (Cancelled).

11. (Currently amended) ~~The apparatus of claim 10~~ Apparatus for synchronizing to a frame, said apparatus comprising:

a cross-correlation system that processes a received signal with a known preamble to obtain cross-correlation information for said received signal and said known preamble; and

a synchronization signal generation block that searches for an indication of strong cross-correlation between said received signal and said preamble using said cross-correlation information and provides a synchronization signal responsive to said indication,

wherein said cross-correlation system cross-correlates said received signal with said known preamble to develop a cross-correlation signal, and wherein said cross-correlation system comprises a filter that filters said cross-correlation signal,

wherein said filter comprises:

a cross-correlation block that cross-correlates said cross-correlation signal with M-1 "0"s and 1 "1" N times wherein M is a number of samples in a symbol within said preamble and N is greater than or equal to 1.

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12. 5 (Currently amended) The apparatus of ~~claim 9~~ claim 11, wherein said cross-correlation system further comprises:

a non-linear processing element that non-linearly processes the output of said cross-correlation ~~information~~ block.

13. 6 (Currently amended) The apparatus of claim 12 5 wherein said non-linear processing element squares the output of said cross-correlation ~~signal~~ block.

14.   (Cancelled).

15. 7 (Currently amended) ~~Apparatus~~ An apparatus for detecting start of a frame, said apparatus comprising:

means for processing a received signal with a known preamble to obtain cross-correlation information for said received signal and said known preamble, said means for processing including:

means for cross-correlating said received signal with said known preamble to develop a cross-correlation signal; and

means for filtering said cross-correlation signal, wherein said means for filtering said cross-correlation signal comprises:

means for cross-correlating said cross-correlation signal with M-1 "0"s and 1 "1" N times wherein M is a number of samples in a symbol within said preamble and N is greater than or equal to 1;

means for searching for an indication of strong cross-correlation between said received signal and said preamble using said cross-correlation information; and

means for registering start of a frame upon detection of said indication.

16. 8 (Currently amended) Apparatus for synchronizing to a frame said apparatus comprising:

means for cross-correlating a received signal with a known preamble to obtain cross-correlation information for said received signal and said known preamble, said means for processing including:

means for cross-correlating said received signal with said known

preamble to develop a cross-correlation signal; and

    means for filtering said cross-correlation signal, wherein said means for

filtering said cross-correlation signal comprises:

        means for cross-correlating said cross-correlation signal with M-1

"0"s and 1 "1" N times wherein M is a number of samples in a symbol within said

preamble and N is greater than or equal to 1; and

    means for searching for an indication of strong cross-correlation between said

received signal and said preamble using said cross-correlation information and

providing a synchronization signal responsive to said indication.

17.–19.   (Cancelled).

20.   (Currently amended) ~~The product of claim 19~~ A computer program product for

detecting start of a frame, said product comprising:

    code that processes a received signal with a known preamble to obtain cross-

correlation information for said received signal and said known preamble, wherein

said code that processes said received signal comprises:

        code that cross-correlates said received signal with said known preamble

        to develop a cross-correlation signal; and

        code that filters said cross-correlation signal, wherein said code that

        filters said cross-correlation signal comprises:

            code that cross-correlates said cross-correlation signal with M-1 "0"s

            and 1 "1" N times wherein M is a number of samples in a symbol

            within said preamble and N is greater than or equal to 1;

    code that searches for an indication for a strong cross-correlation between said

received signal and said preamble using said cross-correlation information;

    code that registers start said frame upon detection of said indication; and

    a computer-readable storage medium that stores the codes.

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21. (Currently amended) The product of ~~claim 18~~ claim 20 wherein said code that processes said received signal further comprises:

code that non-linearly processes the result of cross-correlating said cross-correlation ~~information~~ signal prior to searching by said code that searches.

22. (Currently amended) The product of claim 21 wherein said code that non-linearly processes the result of cross-correlating said cross-correlation ~~information~~ singal comprises:

code that squares the result of cross-correlating said cross-correlation signal.

23.-26 (Cancelled).

27. (Currently amended) ~~The product of claim 26~~ A computer program product for synchronizing to a frame, said computer program product comprising:

code that cross-correlates a received signal with a known preamble to obtain cross-correlation information for said received signal and said known preamble, wherein said code that cross-correlates comprises:

code that cross-correlates said received signal with said known preamble to develop a cross-correlation signal; and

code that filters said cross-correlation signal, wherein said code that ~~filter~~ filters comprises:

code that cross-correlates said cross-correlation signal with M-1 "0"s and 1 "1" N times wherein M is a number of samples in a symbol within said preamble and N is greater than or equal to 1;

code that searches for an indication for a strong cross-correlation between said received signal and said preamble using said cross-correlation information and provides a synchronization signal responsive to said indication; and

a computer-readable storage medium that stores the codes.

28. (Currently amended) The product of ~~claim 25~~ claim 27 wherein said code that cross-correlates further comprises:

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code that non-linearly processes <u>the result of cross-correlating</u> said cross-correlation ~~information~~ <u>signal</u>.

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29. (Currently amended) The product of claim 28 wherein said code that non-linearly processes <u>the result of cross-correlating</u> said cross-correlation ~~information~~ <u>signal</u> squares <u>the result of cross-correlating</u> said cross-correlation signal.

30. (Cancelled).